UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/985,814	11/06/2001	Allen Fong-Chin Lin	L9079.01115	4324

7590 05/12/2004

STEVENS, DAVIS, MILLER & MOSHER, L.L.P.
Suite 850
1615 L Street, N.W.
Washington, DC 20036

EXAMINER	
YAO, SAMCHUAN CUA	
ART UNIT	**PAPER NUMBER**
1733	

DATE MAILED: 05/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/985,814	LIN, ALLEN FONG-CHIN	
	Examiner	Art Unit	
	Sam Chuan C. Yao	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2000211008 A in view of Lin (US 5,552,011) and optionally further in view of Schut et al (US 6,376,058) for reasons of record set forth in numbered paragraph 4 in the last office action dated 02-17-04; and further in view of anyone of (JP 404001233 A, Rubino et al (US 5,990,209) and Fujii et al (US 5,219,903)) and optionally further in view of Prince et al (US 6,083,601).

JP '008 does not teach using a pair of single-screw secondary extruders instead teaches using a pair of twin-screw secondary extruders (page 4 last paragraph figure 4). However, it would have been obvious in the art to substitute a pair of twin-screw secondary extruders with a pair of single-screw secondary extruders, because it is a common practice in the art to interchangeably use a single-screw secondary extruder and a twin-screw extruder for extruding a polypropylene-type resin as exemplified in the teachings of anyone of JP '233 (English abstract), Rubino et al (col. 4 lines 31-63) and Fujii et al (abstract; col. 2 line 17 to col. 3 line 18).

As for a limitation of compositions being *"evenly stirred in feeders which are at the front ends of the two single-screw secondary extruders"*, see page 4 last paragraph of the JP '008 patent and example 1 of the Lin '011 patent. The cited passages in these patents teaches mixing various components of a composition (i.e. understood to be evenly blended) prior to being fed into each secondary extruder. In any event, it would have obvious in the art to evenly blend a composition for each secondary extruder in order to provide a homogeneous blend of a feed material for each secondary extruder. Moreover, it would have been imperative for one in the art to dispose each feeder at around a front end of each secondary extruder as such is a notoriously a common practice in the art in order to effective knead a composition in an extrusion device. Prince is optionally cited as further evidence that, it is well known in the art to homogenously blend various components of a composition in a feeder of an extruder (figure 2).

3. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph 2 as applied to claim 1 above, and further in Slattery et al (US 5,637,268), Yoshikawa et al (US 5,728,337).

With respect to claim 2, ince the recited air-drawing devices recited in this claim are taken to be conventional in the art as exemplified in the teachings of either Slattery et al (abstract; col. 1 line 61 to col. 2 line 67; col. 3 lines 1-23; figure 3) or Yoshikawa et al (abstract; col. 4 lines 14-39), this claim would have been obvious in the art.

It is worthnoting that, Slattery et al illustrates an extrusion device where a feeder is disposed around a front end of the extrusion device (figure 3).

With respect to claim 5, the limitation in this claim is conventional in the art as exemplified in the teachings of Lin '011 (col. 3 lines 44-50).

4. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph 2 as applied to claim 1 above, and further in view of Tunashima et al (US 6,126,915).

It would have been obvious in the art to surface treat inorganic powder in forming a master-batch in the modified process taught by JP '008, because it is a common practice in the art to surface treat inorganic powder in forming a master-batch to enhance the characteristics of an extruded sheet as exemplified in the teachings of Tunashima et al (abstract; col. 1 lines 14-27).

With respect to claim 4, see column 3 lines 43-67 of the Lin '011.

Remarks

Counsel argues on page 10 last full paragraph to page 11 full paragraph 1 that, none of the references cited teaches prefabricating an inorganic master batch so that an inorganic powder and a polypropylene are blended together to obtain a required dispersion prior to entering an extruder. Examiner strongly disagrees with Counsel's assertion. As noted in the last office action, Lin '011 teaches the desirability of forming two master batches of two types of inorganic materials (calcium carbonate and titanium dioxide) and polypropylene (examples 1-3). Although not explicitly disclosed, one in the art would have readily understood

and appreciated that, in forming a master batch taught by Lin '011, an inorganic material and a polypropylene must be blended together. Otherwise, what's the purpose of forming a master batch, if it is not to blend these materials together. Since they are blended together, the limitation of reaching *"a required dispersion in advance ..."* fails to distinguish over JP '008 using master batches suggested by Lin '011. Moreover, Schut et al is cited as further evidence that, to show that inorganic particles are *"dispersed"* in a polyolefin matrix in a master batch (col. 6 lines 38-65). It is worthnoting that, Schut et al teaches forming master batches in order to obviate a problem of inorganic powder dusting. As for the alleged advantages of using master batches, JP '008 in view of Lin '011 and Schut et al also use master batches. Therefore, the alleged advantages must naturally flow from the collective teachings of the prior art.

As for Counsel's newly presented argument on page 13 regarding an extrusion process taught by JP '008, Counsel would appear to be mischaracterizing the process taught by JP '008. JP '008 does not directly add various component to a twin-screw main extruder. Just like the present invention (figure 2), the extrusion process taught by JP '008 as shown in figure 4 also uses two secondary extruders, except that the secondary extruders are twin-screw type extruders instead of single-screw type extruders. Note that: Lin also teaches using two secondary extruders, but is silent on whether they are a single-screw or a twin-screw extruder.

As for Counsel's newly presented argument on the same page regarding the even stirring of each composition to a secondary extruder, as noted above, this limitation would have been obvious in the art for reasons set forth above.

As for Counsel's newly presented argument on page 14 regarding the use of extruders, each having an air drawing device, as noted in the prior office actions, extruders with air drawing device is conventional in the art. See the cited references set forth in numbered paragraph 3 above.

Conclusion

In light of a new ground of rejection, the finality of the prior office action is withdrawn.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (571) 272-1224. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sam Chuan C. Yao
Primary Examiner
Art Unit 1733

Scy
05-06-04